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NTSB Order No. EA-4202

UNITED STATES OF AMERICA
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD
at its office in Washington, D.C.
on the 20th day of June, 1994

Petition of)

MARK E. KILBURN)

for review of the denial by)
the Administrator of the)
Federal Aviation Administration)
of the issuance of an airman)
medical certificate.)

Docket SM-4009

OPINION AND ORDER

The Administrator has appealed from the written initial decision of Administrative Law Judge Jerrell R. Davis, served on January 6, 1994,¹ subsequent to an evidentiary hearing held on June 16, 1993. By that decision, the law judge concluded that petitioner had shown by a preponderance of the substantial, reliable and probative evidence that he is qualified to hold an unrestricted third-class medical certificate under section 67.17(b)(1) and (2) of the Federal Aviation Regulations (FAR),

¹A copy of the written initial decision is attached.

14 C.F.R. Part 67.² We grant the appeal and reverse the law judge's decision.

The Administrator issued a final denial of airman certification by letter dated August 19, 1992, signed by Audie W. Davis, M.D., Manager of the FAA Aeromedical Certification Division. The denial was based on petitioner's "history and clinical diagnosis of defective visual acuity with serious eye pathology." (Joint exhibit 1 at 1.)

Petitioner does not dispute that at age 17 he was diagnosed with juvenile macular degeneration,³ and that he is also

²The regulation states, in pertinent part:

§ 67.17 Third-class medical certificate.

(a) To be eligible for a third-class medical certificate, an applicant must meet the requirements of paragraphs (b) through (f) of this section.

(b) Eye:

(1) Distant visual acuity of 20/50 or better in each eye separately, without correction; or if the vision in either or both eyes is poorer than 20/50 and is corrected to 20/30 or better in each eye with corrective lenses (glasses or contact lenses), the applicant may be qualified on the condition that he wears those corrective lenses while exercising the privileges of his airman certificate.

(2) No serious pathology of the eye.

³Dr. Sterling Haidt, a board-certified ophthalmologist who testified for petitioner, called the condition juvenile macular dystrophy rather than juvenile macular degeneration because "[d]egeneration denotes a progressive disease which occurs in older adult individuals. Dystrophy denotes something that occurs in a younger individual. It's not progressive." (Transcript (Tr.) at 207.) Both terms, however, describe essentially the same condition. Dr. Arthur Keeney, a board-certified ophthalmologist who testified for the Administrator, explained that juvenile macular degeneration occurs when there is a loss of cone cells in the eye, affecting straight-ahead vision, which causes the person to see the world as if it is "a little bit moth-eaten." (Tr. at 259-61.) The direct result of this is a loss of sharp resolving ability, color discrimination, and stereo

nearsighted. His condition is not completely correctable with conventional eyeglasses or contact lenses. The macular degeneration causes petitioner to have a 4-degree central scotoma, or blind spot. (Tr. at 146.) As described by one of the medical experts, it is as if he's "lost the center of the bull's eye." (Tr. at 376.)

Petitioner wears contact lenses for his mild nearsightedness. (Tr. at 36.) His uncorrected vision is 20/300 in each eye which, with the aid of contact lenses, can be corrected to a distant visual acuity of 20/80 in the right eye and between 20/70 and 20/100 in the left eye.⁴ All parties are in agreement that the visual acuity achieved with contact lenses alone is insufficient to meet the regulatory requirement of corrected vision of 20/30 or better. Petitioner, however, claims that he fulfills the requirement with the use of bioptic telescopes, in addition to the contact lenses, that enable him to enhance his distance vision.⁵

On appeal, the Administrator contends that the law judge's initial decision is erroneous and should be reversed because 1)

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acuity. (Tr. at 261-62.)

⁴According to petitioner's optometrist, Dr. Robert Gordon, the size of the scotoma fluctuates, depending on petitioner's level of concentration. (Tr. at 36.)

⁵The devices are mounted on what look like conventional eyeglasses, but are angled up, so that petitioner looks underneath the telescopic lenses most of the time until he needs to see detail, either near or distant, at which time he drops his head to look through the telescopes. The telescopic devices create a 4x magnification of the image he sees. (Joint exhibit 1 at 45.)

petitioner does not meet the requirement of 20/30 vision with corrective lenses; 2) bioptic telescopic devices are not "glasses or contact lenses" as specified in FAR section 67.17(b)(1); and 3) petitioner's condition is a serious pathology of the eye. Petitioner, in turn, argues that the law judge's decision is correct: Namely, that he does not have a serious pathology of the eye and that the bioptic telescopes correct his vision to 20/20, thereby allowing him to meet the regulatory visual acuity requirements.

Four medical experts testified at the hearing.⁶ All agreed that petitioner has macular degeneration/juvenile macular dystrophy which affects the acuity of his straight-ahead vision and that the bioptic telescopes serve to enlarge the image he sees 4 times. This enables the functioning part of his eye to discern the image. The disagreement occurs over whether his vision is in fact corrected to 20/20 with the bioptic telescopes and whether he has a serious pathology of the eye.

Dr. Robert Gordon testified that petitioner has been his patient since 1988 and that he fit petitioner with the bioptic telescopes. He stated that, as an optometrist, he could not render an expert medical opinion on whether petitioner had a serious pathology of the eye. Dr. Gordon described the functioning of the telescopic devices, which he compared to the

⁶In addition, a certified flight instructor who had given petitioner about 17 hours of instruction, testified to petitioner's demonstrated ability to operate an aircraft in a safe manner.

optical system of a camera, in terms of driving a car:

A person using a bioptic telescope, such as these, would primarily lift his head up slightly so he's looking underneath the telescopic lens, and periodically while driving would drop his head to make a scanning motion to look at some object down the road; to either view a traffic light to determine what color it is, to look down the road and evaluate traffic patterns, to see if there was a pedestrian. The time it would take to go from looking underneath the telescope, obtaining the information that you need and looking back underneath the telescope again is about the same time it would take a normally-sighted driver to go from looking straight ahead to sight through a rear-view mirror and back. It's a very quick scanning motion.

(Tr. at 72.)

Dr. Gordon opined that petitioner's use of bioptic telescopes enables him to overcome his 4-degree central scotoma and achieve 20/20 visual acuity.⁷ Though the field of view through the telescopes is limited to only 5½ degrees and is surrounded by an 8½-degree ring scotoma, Dr. Gordon believes that because the eyes and head are constantly in motion when this device is properly used, the blind spot and small field of vision are not impediments.⁸ (Tr. at 99, 105, 148-49.) He further indicated that petitioner's peripheral vision is normal and, but for the 8½-degree ring scotoma, unaffected by the telescopes.

⁷According to Dr. Gordon, the petitioner, when using the bioptic telescopes, is able to discriminate the one minute of arc separation of the letters in the 20/20 line on an eye chart. (Tr. at 102.)

⁸Dr. Gordon explained that, in order for petitioner to discern a visual image clearly, it must be magnified 4 times, causing it to be projected by the brain as appearing 4 times closer. (Tr. at 91-92.) He believes that petitioner's "ability to detect motion and things around him is as good as any normally sighted person." (Tr. at 151.) Presumably, Dr. Gordon was referring to petitioner's ability when using the bioptic telescopes as designed. See supra, pp. 4-5.

Dr. Gordon readily concedes that for petitioner to have 20/20 visual acuity, he must be using the bioptic lenses. (Tr. at 148.) It was Dr. Gordon's opinion that, while bioptic telescopes are not conventional glasses, they fall under the category of "glasses."

Dr. Sterling Haidt is an ophthalmologist whose practice is restricted to diseases and surgery of the retina and vitreous. He testified that petitioner had been his patient since 1983. In his opinion, petitioner's juvenile macular dystrophy is not progressive since, between 1983 and 1992, petitioner's visual acuity did not decrease. See supra, n. 3. Based on this history, he predicted that petitioner's "vision would remain unchanged indefinitely." (Tr. at 220.) He further concluded that petitioner does not have a serious pathology of the eye and that the telescopic lenses enable him to have 20/30 or better vision. (Tr. at 221.)

Dr. Arthur Keeney was one of two ophthalmologists offered by the Administrator as medical experts.⁹ He did not personally examine petitioner, but reviewed the medical records and photographs of the interior of petitioner's eyes. Dr. Keeney determined that petitioner has lost a serious amount of cone

⁹As detailed in his voluminous curriculum vitae, Dr. Keeney has nearly 50 years of experience in ophthalmology in private practice, academic, and advisory roles. He has published several studies, including a study on the "optical limitations in vision created by incorporating a compound telescope into the ordinary glasses or spectacles," ocular injuries, and various transportation-related topics having to do with ophthalmology. He also served on the committee to review and revise FAR Part 67. (Tr. at 249-51.)

detail, which affects his hue determination, stereo acuity, ability to see detail, and resolving power. (Tr. at 262-65.) The loss of the cone cells, in Dr. Keeney's opinion, has resulted in a serious pathology of the eye.¹⁰

Regarding the bioptic telescopes, Dr. Keeney believes they are telescopic devices, not corrective lenses, since their purpose is not to correct an optical error in the eye, but simply to make the image larger.¹¹ (Tr. at 283.) He further believes that they are not appropriate for flying due to the small central magnified area, the relatively large ring scotoma, the lack of a reference point for a pilot using them as well as momentary loss of contact that occurs when the user goes from viewing the world with subnormal vision to using the telescopes, the awning effect-loss of visual clues above the ring scotoma, and the vibration decay associated with the use of a telescope in a moving aircraft.¹²

¹⁰Dr. Keeney defined pathology as "an abnormal development or alteration of the tissue so that it doesn't have its usual conformation or function." (Tr. at 258.) He considers petitioner's substantial loss of cone cells to be serious.

¹¹The law judge erroneously stated in the initial decision that, according to a document contained in Joint Exhibit 1, the DOT (Department of Transportation) defined a bioptic telescopic lens as a corrective lens. The document actually refers to a definition by the Motor Vehicle Administration of the Maryland Department of Transportation.

¹²At the hearing, the law judge asked Dr. Keeney if 20/50 vision was "reflective of serious eye pathology." The doctor responded that he did not know. (Tr. at 326.) The question seemed to be based on Dr. Keeney's statement that it was bad for section 67.17 to have a standard of 20/50 vision without correction. After this testimony, the law judge remarked:

Dr. Robert Rigg, the Regional Flight Surgeon for the FAA's Alaskan Region, is an ophthalmologist and a pilot.¹³ He testified that petitioner has a serious pathology of the eye, which he defined as a condition that interferes with visual functioning and results in reduced visual efficiency to the point where an airman cannot meet the standards of FAR Part 67. (Tr. at 409.) He believes that bioptic telescopes are not glasses, but low-vision aids.¹⁴ Even if the devices were considered corrective lenses (glasses or contact lenses), Dr. Rigg noted that petitioner still would not meet the regulatory requirement

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He thinks the regulation is bad but [he doesn't] know whether it's serious pathology. But he had previously said that 20/40 is the cut-off there, that's serious pathology, anything beyond that. But now when he looks at the regulation[, he doesn't] know. So we're just going to have to live with that. That's what he said.

(Tr. at 327.) He later commented that, based on Dr. Keeney's testimony, any pilot flying with 20/50 unaided vision, as permitted by the regulations, would be considered to have serious eye pathology. (Tr. at 415.)

It appears that the law judge took Dr. Keeney's comments out of context. Dr. Keeney stated that 20/40 was a good screening level or cut-off point for obtaining a driver's license and that "if you can't see 20/40 with spectacles and contact lenses, usually there's something wrong of some seriousness in the eye."

(Tr. at 315.) Our review of the transcript reveals that the doctor believed that vision correctable only to 20/40, and especially in petitioner's case, to no better than 20/70, is an indication of an abnormality, probably a serious pathology, of the eye. The law judge's misimpression is of consequence in that it likely influenced his decision to accept Dr. Haidt's opinion as the most persuasive and logical.

¹³Dr. Rigg testified that he has a single engine land and sea, and multiengine ratings, and has logged about 3,200 hours.

¹⁴He stated that "telescopic magnifying compound Galilean-type telescopes" are not considered glasses as referenced in Part 67 of the FARs. (Tr. at 355.)

of having corrected vision of 20/30 or better because, as petitioner readily admits, he does not look through the telescopic lenses at all times while flying.¹⁵ (Tr. at 366-67.)

We agree with Dr. Rigg's observation. Part 67.17(b) of the FAR states that an applicant for a third-class medical certificate who meets the corrected visual acuity standard of 20/30 or better "may be qualified **on the condition** that he wears those corrective lenses while exercising the privileges of his airman certificate." (Emphasis added.) As discussed earlier, respondent is correctable to between 20/70 and 20/100 with his contact lenses and admits that he uses the bioptic telescopes a small part of the time when, he claims, his vision is then corrected to 20/20. However, the remainder of the time he is not looking through the telescopes and his vision is no better than 20/70. Thus, even if we were to agree that the bioptic devices are corrective lenses as specified in the regulation, petitioner does not have correctable vision that meets the standard.

As to whether petitioner has a serious pathology of the eye, we find the Administrator's expert witnesses more persuasive.¹⁶

¹⁵Petitioner agrees that with his contact lenses alone, he does not meet the requirement for distant visual acuity. As Dr. Gordon testified, a person using bioptic telescopes only looks through them occasionally, not constantly.

¹⁶Expert medical testimony is not reviewed in terms of its truth or falsity. Rather, the Board bases its evaluation of expert medical testimony on the "logic, objectivity, persuasiveness, and [] depth of the medical opinion." Administrator v. Loomis, 2 NTSB 1293, 1294 (1975), aff'd 553 F.2d 634 (10th Cir. 1977).

That petitioner seeks to overcome his vision problem and become a certificated pilot is admirable; however, his determination does not abrogate the regulatory requirement of 67.17. As supported by the record, petitioner's condition is a serious eye pathology with considerable destructive loss of cone cells and visual functioning. While it may be true that he can overcome many of the limiting effects of his condition with the aid of bioptic telescopes, that does not change the nature of petitioner's underlying condition. Based on the evidence, we are persuaded that petitioner has a serious pathology of the eye and thus does not fulfill the requirement for a third-class medical certificate under FAR section 67.17.

ACCORDINGLY, IT IS ORDERED THAT:

1. The Administrator's appeal is granted; and
2. The initial decision is reversed.

HALL, Acting Chairman, LAUBER, HAMMERSCHMIDT and VOGT, Members of the Board, concurred in the above opinion and order.